
Diabetic foot ulcer: an evidence-based treatment update.

Journal: Am J Clin Dermatol

Publication Year: 2014

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PubMed link: 24902659

Public Summary:

BACKGROUND: Diabetic foot ulcers (DFUs) are extremely debilitating and difficult to treat. Multidisciplinary management, patient education, glucose control, debridement, offloading, infection control, and adequate perfusion are the mainstays of standard care endorsed by most practice guidelines. Adjunctive therapies represent new treatment modalities endorsed in recent years, though many lack significant high-powered studies to support their use as standard of care. **OBJECTIVE:** This update intends to identify recent, exclusively high level, evidence-based evaluations of DFU therapies. Furthermore, it suggests a direction for future research. **METHODS:** PubMed, Embase, Ovid Technologies, CINAHL, Cochrane, and Web of Science databases were systematically searched for recent systematic reviews published after 2004, and randomized controlled trials published in 2012-2013 that evaluated treatment modalities for DFUs. These papers are reviewed and the quality of available evidence is discussed. **RESULTS:** A total of 34 studies met inclusion criteria. Studied therapies include debridement, off-loading, negative pressure therapy, dressings, topical therapies, hyperbaric oxygen therapy, growth factors, bioengineered skin substitutes, electrophysical therapy, and alternative therapy. Good-quality evidence is lacking to justify the use of many of these therapies, with the exception of standard care (offloading, debridement) and possibly negative pressure wound therapy. **LIMITATIONS:** There is an overall lack of high-level evidence in new adjunctive management of DFU. Comparison of different treatment modalities is difficult, since existing studies are not standardized. **CONCLUSIONS:** Many therapeutic modalities are available to treat DFU. Quality high-level evidence exists for standard care such as off-loading. Evidence for adjunctive therapies such as negative pressure wound therapy, skin substitutes, and platelet-derived growth factor can help guide adjunctive care but limitations exist in terms of evidence quality.

Scientific Abstract:

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